CLAIMS

WHAT IS CLAIMED IS:

1. A method comprising:

detecting an event that would cause cycles to be idle in a processor; and

issuing diagnostic instructions to the processor during the cycles that would be idle.

2. The method of claim 1, further comprising:

selecting the diagnostic instructions based on a number of the cycles that would be idle.

3. The method of claim 1, further comprising:

comparing a result of the diagnostic instructions with a pre-computed result.

4. The method of claim 1, further comprising:

incrementing a pre-computed result between the diagnostic instructions wherein the pre-computed result of one of the diagnostic instructions is input to a next of the diagnostic instructions.

5. The method of claim 1, wherein the event comprises a cache miss.

6. The method of claim 1, wherein the event comprises a task switch.

7. An apparatus comprising:

means for detecting an event that would cause cycles to be idle in a processor;

means for issuing diagnostic instructions to the processor during the cycles that would be idle; and

means for comparing a result of the diagnostic instructions with a pre-computed result.

8. The apparatus of claim 7, further comprising:

means for selecting the diagnostic instructions based on a number of the cycles that would be idle.

9. The apparatus of claim 7, further comprising:

means for incrementing a pre-computed result between the diagnostic instructions wherein the pre-computed result of one of the diagnostic instructions is input to a next of the diagnostic instructions.

10. A processor comprising:

an issue unit to detect an event that would cause cycles to be idle in the processor and issue diagnostic instructions during the cycles that would be idle to a pipeline;

an increment unit to increment a pre-computed result between the diagnostic instructions wherein the pre-computed result of one of the diagnostic instructions is input to a next of the diagnostic instructions; and

a compare unit to compare the pre-computed result with a result of each of the diagnostic instructions.

11. The processor of claim 10, wherein the issue unit is further to select the diagnostic instructions based on a number of the cycles.

12. The processor of claim 10, wherein the event comprises a cache miss.

13. The processor of claim 10, wherein the event comprises a task switch.

14. A computer system comprising:

a processor comprising a counter, wherein when the counter exceeds a threshold, diagnostic code is invoked;

a storage device encoded with the diagnostic code, wherein the diagnostic code when executed on the processor comprises:

selecting a test routine to issue to the processor based on an error log.

15. The computer system of claim 14, wherein the selecting further comprises:

selecting the test routine to issue to the processor based on a history of activity at the processor.

16. The computer system of claim 14, wherein the selecting further comprises:

selecting the test routine to issue to the processor based on a temperature of a unit of the processor.

17. The computer system of claim 14, wherein the diagnostic code further comprises:

changing an interval of a count of activity at the processor based on activity of a unit of the processor and a temperature of a unit of the processor.

18. A signal-bearing medium encoded with instructions, wherein the instructions when executed comprise:

periodically selecting a test routine to issue to a processor based on a log of errors at the processor and a history of activity at the processor.

19. The signal-bearing medium of claim 18, wherein the periodically selecting further comprises:

selecting the test routine to issue to the processor based on a temperature of a unit of the processor.

20. The signal-bearing medium of claim 18, further comprising:

changing an interval of a count of activity at the processor based on activity of a unit of the processor and a temperature of a unit of the processor.